

U.S. Pat. App. Ser. No. 10/762,063

PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/762,063

Examiner: M.V. Einsmann

Applicants: Griffin et al.

Art Unit: 1751

Filed: January 21, 2004

Title: Dye Mixtures

RULE 1.132 DECLARATION OF BRUCE OWEN GRIFFIN

I, BRUCE OWEN GRIFFIN, the undersigned, state the following:

1. I received a Bachelor of Science Degree in Chemical Engineering and a Bachelor of Science Degree in Textile Chemistry from North Carolina State University.
2. I am currently a technical specialist for the Textile Effects business unit of Huntsman Corporation with overall responsibility to lead technical development of products for the automotive business of the North America region. I am also responsible for coordinating the Technical Service Labs for the Technical Textile segment of North America located in High Point, North Carolina.
3. I am co-inventor of, and familiar with, the above-identified U.S. Patent Application Serial No. 10/762,063, which was filed on January 21, 2004 in the name of Griffin et al. and entitled "Dye Mixtures."
4. To demonstrate the effect of combining yellow dyes in dye mixtures according to the present invention, the following experiments were conducted by me or under my supervision. In Tables 1 to 3 below are the lightfade results of a cashmere shade, titanium shade and ebony shade dyed with a dye mixture containing a red dyeing mixture, a blue dyeing mixture, UV absorber and a yellow dyeing mixture comprising the dyes of formulae I or II or IV or VI or I in combination with II; all of which are identified in said patent application. These dyeings were consequently exposed to test method GMW3414 at 1204 kj exposure yielding these results:

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Table 1. Lightfade results for Cashmere Shade

Yellow Dyeing Mixture	Residual Strength	Da red/green shift	Db yellow/blue shift	De total shade difference	Results per GMW3414
I	80	-0.01	-1.18	2.57	Fail
II	79	-1.04	-1.9	3.33	Fail
IV	80	-0.84	-1.97	3.21	Fail
VI	78	-0.69	-1.86	3.22	Fail
I + II	84	-0.76	-1.22	1.25	Pass

Table 2. Lightfade results for Titanium Shade

Yellow Dyeing Mixture	Residual Strength	Da red/green shift	Db yellow/blue shift	De total shade difference	Results per GMW3414
I	82	-0.43	-0.41	2.58	Borderline
II	79	-1.12	-1.36	3.38	Fail
IV	81	-0.98	-0.93	3.08	Fail
VI	78	-0.58	-1.32	3.22	Fail
I + II	89	-0.62	-1.13	1.38	Pass

Table 3. Lightfade results for Ebony Shade

Yellow Dyeing Mixture	Residual Strength	Da red/green shift	Db yellow/blue shift	De total shade difference	Results per GMW3414
I	84	-1.16	2.22	3.57	Fail
II	84	-1.15	-1.83	2.87	Fail
IV	85	-0.47	-0.26	1.95	Pass
VI	81	-0.28	-0.01	2.32	Borderline
I + II	83	-0.56	-0.42	1.98	Pass

5. The above clearly demonstrates that a dye mixture containing the combination of yellow dyes of formulae I and II surprisingly and unexpectedly provides enhanced performance in correcting the red/green shade shift and yellow/blue shade shift with regard to lightfastness as compared to a dye mixture containing yellow dyes of formula I, II, IV or VI, when used alone.

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I declare that all statements made of my own knowledge are true, and that all statements made on information and belief are believed to be true. I made these statements with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and may jeopardize the validity of the application or any patent issued thereon.

10/27/2006
DATE

Bruce Owen Griffin
BRUCE OWEN GRIFFIN

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